

REMARKS

The Office Action indicated that the subject matter of Claims 3 and 5 would be allowed if rewritten in independent form. It is requested that the redrafting of this allowed subject matter be held in abeyance until the following comments are reviewed.

Claims 1 and 3 have been amended to address §112 issues, and claim 10 is withdrawn. It is believed that Claims 1 through 9 are now allowable. In addition, new claims 11 through 14 have been added.

With regards to the *Yoneda et al* (U.S. Patent No. 6,823,849) which is commercially owned by the present applicant.

The present invention addresses a growing need for affordable precision test equipment to precisely and brightly illuminate small objects. Precision illumination of small objects enables inspectors and technicians to find manufacturing defects and flaws. Semiconductor and electronic companies have a continuing need for ever more precise instrumentation to measure increasingly densely populated chips and circuit boards. In addition, the invention allows a user to make precision measurements and find minute alignment marks.

In one of the many possible embodiments of the present invention light emitting ends of a plurality of optical fibers are configured in a circular array allowing an object to be brightly illuminated with little or no shadowing effect. The spatially diverse geometry also allows for sensors to pick up reflected light and auto-detect manufacturing defects or flaws. Coupled with robotic type machines the invention can be used as an integral part of a manufacturing process. The present structure and arrangement of optical fiber

holding portions and lens holding portions enable a relatively inexpensive mounting of optical fibers and directional lenses in a compact configuration.

The Office Action rejected Claims 1, 2, 9 and 10 as anticipated by *Belfer* (U.S. Patent No. 6,523,984). The *Belfer* reference teaches a replacement for an incandescent light bulb or reflector lamp (Column 1, lines 4-6) in a conventional lamp configuration by replacing or modifying the light bulb socket to accommodate a bundle of fiber optics to remove a local source of heat.

Belfer, accordingly, is seeking to resolve a different problem from that of the present invention and would teach a person of ordinary skill in this crowded technical field the following:

These prior art patents do not teach or disclose the reconfiguration of conventional lamps(e.g., MR11, MR16 and the like) into a fiber optic replicant lamp which can then be mounted in the same locations of lighting fixtures having the conventional lamps. In addition, the prior art patents do not teach or disclose a plurality of fiber optic replicant lamps each having a fiber optic cable contained therein connected to a common light pump having a single light source. (Emphasis added.) (Column 1, Lines 48-57.)

The *Belfer* invention can be used to light a room, theatre or a convention hall (Column 6, lines 63-65). The motivation cited for inventing such a lamp was to eliminate the expensive process of changing ordinary bulbs and lamps in department stores, theatres, and museums (Column 1, lines 22-25).

In contrast, the applicant's invention is a solution designed to meet a problem of providing compact and inexpensive mounting of optical fibers and inexpensive lenses to address compact configurations with particular lighting requirements such as in one example, precision test equipment and instrumentation needs for the manufacturing

community. One novel characteristic of the applicant's invention is that it enables the precision bright illumination of small target areas of small objects. Manufacturers can affect quality control and innovative manufacturing techniques on increasingly smaller devices as a result of this invention.

The *Belfer* patent describes (Column 5 Lines 28-30) a stem section 24 integrally attached to a reflector section 22. The *Belfer* reference further elaborates that the stem section has an "interior cylindrical passageway" (Column 6, Line 16) for receiving the cable housing of the fiber optic cable/bundle. There is no teaching of receiving a single optical fiber in a fiber insert hole adjacent a lens dedicated to that optical fiber. The disclosure and the corresponding drawings of *Belfer* show only a fiber optic cable/bundle secured and in contact only within a cylindrical stem that can replace a light bulb socket. In contrast, applicant's insert hole, for receiving an optical fiber, is provided on a distal side of the insert hole with a larger diameter than the opposite side as claimed in Claim 1.

The *Belfer* patent describes (Page 5 Lines 29 and 30) a conical reflector section 104 attached at a distance from the stem section, but this conical reflector section is not used to secure the fiber cable/bundle. Instead, the *Belfer* disclosure teaches a conical shaped reflector to focus light extending from the cylindrical stem section, with each specific embodiment showing that an end of the "cable housings 62 of the fiber optic cables 60 are inserted into the interior passageways 58 of each stem section 24 for receiving cable housing 62" (Column 7, Lines 9-14), and only the light from the bundle is transmitted through air to a downstream lens and/or reflector.

In contrast, the applicant's insert hole performs a number of functions including structurally securing the fiber optic. In the description, the applicant teaches that the

larger diameter portion will prevent removal of the optical fiber from the fiber holding portion. This holding and securing feature created by the larger-diameter portion structure of our fiber holding portion is not present in the *Belfer* cylindrical stem. Further highlighting the lack of this structural support feature of the applicant's design is the teaching in the *Belfer* disclosure calling for a "connection means such as gluing, clamping pressure, springs, set-screws or threading." (Column 6, Lines 50-53) to secure the optical fiber bundle within the stem.

This unique feature of allowing the optical fiber to be structurally secured to the illuminating device provides benefits not realized by a cylindrical holding stem including decreased manufacturing costs and more precise illumination of objects. By allowing an optical fiber to be structurally secured to the illuminating device provides benefits not realized by a cylindrical holding stem including decreased manufacturing costs and more precise illumination of objects.

Thus, Claim 1 and new Claim 11 define a fiber insert hole which has a larger-diameter portion at its leading end. The leading end portion of the optical fiber is inserted into the fiber insert hole, and the leading end portion of the optical fiber is fusion-deformed to fit in the larger-diameter portion of the fiber insert hole. With this arrangement, it is possible to prevent the fiber optic from being removed in the original direction of inserting the optical fiber.

As such, "a larger-diameter portion" is not described in the *Belfer* reference and the configuration wherein the leading end portion of the optical fiber is fusion-deformed and fitted in the larger-diameter portion is neither disclosed nor suggested so that Claims 1 and 11 of our invention should be patented.

Claim 4 is rejected as being obvious over a combination of the *Belfer* reference in view of the *Miller* (U.S. Patent No. 5,268,977). Specifically, *Miller* was cited to disclose, in Figure 5, a lens holding portion 34 in the form of a cylindrical adapter.

The *Miller* reference was attempting to resolve a problem in a spotlight luminaire where “virtually no light outside an intense central beam” is provided. Accordingly, such a structure provides a sharp and harsh image as set forth in Column 1, Lines 1-22. *Miller* was seeking to provide a more aesthetically light beam that was free of harsh edges and chromatic aberrations and which may be further dimmed over a wide range of zoomed beam widths. See Column 1, Lines 36-42.

As can be seen in Figures 3-6 of the *Miller* reference, a lens having a series of macro lenses 15 of a particular focal length in combination with micro lenses 15a of a different focal lengths are provided. In Figures 3-6, a threaded support tube 11 can support a fiber optic bundle. The fiber optic bundle is movable within the support tube in one embodiment, while the support tube is capable of absorbing light.

As can be appreciated, a composite lens of macro and micro lenses on a rear surface of a refractive concave surface is offset a considerable distance from the end of the fiber optic holding member to permit an adjustment in the distribution and “softening” of the harsh spotlight.

Needless to say, this reference does not recognize the same problem resolved by the present invention, nor offer any teaching that would permit *Belfer* to be modified to meet our presently pending claims.

VSI is unable, however, to point to any specific teaching or suggestion for making this combination. VSI instead relies on what it presumes is the level of knowledge of one of ordinary skill in the art at the time of the invention to supply

the missing suggestion to combine. In the first place, the level of skill in the art is a prism or lens through which a judge or jury views the prior art and the claimed invention. This reference point prevents these deciders from using their own insight or, worse yet, hindsight, to gauge obviousness. Rarely, however, will the skill in the art component operate to supply missing knowledge or prior art to reach an obviousness judgment. See *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983) (“To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.”). Skill in the art does not act as a bridge over gaps in substantive presentation of an obviousness case, but instead supplies the primary guarantee of objectivity in the process. See *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718, 21 USPQ2d 1053, 1057 (Fed. Cir. 1991).

Al-Site Corp. v. VSI International, 174 F.3d 1308 (Fed. Ca 1999) at page 1324.

Finally, Claims 6-8 were rejected over a combination of the *Belfer* reference when taken in view of the *Yoneda et al* (U.S. Patent No. 6,823,849). The *Yoneda et al* reference is assigned to the assignee of the present Application.

The *Yoneda et al* reference was cited for its disclosure in Figure 18 with a combination of the *Belfer* reference.

The applicant appreciates the Examiner’s directions with regards to the *Yoneda et al* reference As not a prior art publication.

It should be noted that the present application is owned by the same assignee, CCS, Inc., as can be determined from the recordation of the assignment at REEL/FAME 014276/0095 at the same time as U.S. Patent No. 6,832,849 which indicates on its face that it is also owned by CCS, Inc. Thus, at the time of the present invention, it was commonly owned with the cited reference.

Additionally, enclosed is a declaration of Kenji Yoneda which is further believed to moot the *Yoneda et al* reference as a prior art rejection.

It is noted, however, that the *Yoneda et al* reference does not resolve the deficiencies of the *Belfer* reference. In fact, it would appear that the *Belfer* reference would teach away from the disclosure in the *Yoneda et al* reference. Accordingly, it is believed that the present claims are patentable over the *Belfer* reference alone or in combination with any secondary reference.

If the Examiner believes a telephone interview will help further the prosecution of this case, it is respectfully requested that he contact the undersigned attorney at the listed phone number.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on October 11, 2005.

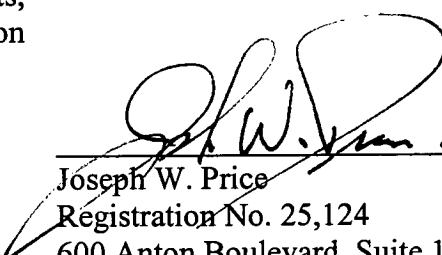
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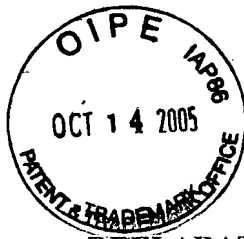
Dated: October 11, 2005

Very truly yours,

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Best Available Copy

DECLARATION OF KENJI YONEDA

1. I, Kenji Yoneda, reside in Kyoto, Japan and I am employed by CCS Inc. of 374, Oukakuen-Cho, Kamigyo-Ku, Kyoto-City, Japan.
2. I am the inventor of the claimed subject matter in U.S. Patent Application Serial No. 10/616,626 filed on July 10, 2003 claiming priority from the Japanese Patent Application P2002-206980 filed on July 16, 2002.
3. I am also one of the joint inventors of U.S. Patent No. 6,832,849. The subject matter set forth in Application No. 10/616,626, such as Figure 4, corresponds to similar subject matter in U.S. Patent 6,832,849 such as Figures 8 and 17 and represents work that I performed by myself and which was part of my contribution to U.S. Patent No. 6,832,849.
4. Accordingly, the subject matter claimed in U.S. Patent Application Serial No. 10/616,626 is directed to my own work as the inventor.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Executed October 7, 2005 at Kyoto, Japan.

Kenji Yoneda
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